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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,745	01/07/2002	John S. Kresge	END919970075US3	4111

7590 04/23/2003  
IBM Corporation / IP Law N50/040-4  
1701 North Street  
Endicott, NY 13760

EXAMINER

NGUYEN, DONGHAI D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 04/23/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/040,745

Applicant(s)

KRESGE ET AL.

Examiner

Donghai D. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 February 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 80-97 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 80-97 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 21 February 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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Oyez, Oyez the Patent Office now speaketh.

**DETAILED ACTION**

***Specification***

1. The disclosure is objected to because of the following informalities: the phrase "07/02/99." (Amendment A1, line 2) should be change to --July 02, 1999, now US Patent No. 6,351,393.--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 80, 82-87, 91, and 93-97 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 4,882,454 to Peterson et al.

This rejection is set forth in prior Office Action, Paper No. 4.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 81, 88, and 92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al.

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This rejection is set forth in prior Office Action, Paper No. 4.

5. Claims 89 and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al. in view of US Patent 5,691,041 to Frankeny et al.

This rejection is set forth in prior Office Action, Paper No. 4.

***Response to Arguments***

6. Applicants' arguments filed February 21, 2003 have been fully considered but they are not persuasive.

Peterson et al do teach the thermally conductive layer (102) being comprised of material having a selected thickness and coefficient of thermal expansion (Col. 2, lines 44-47) to substantially prevent failure of the solder connections (103/104) between said first plurality of electrically conductive members and the semiconductor chip and between said second plurality of electrically conductive members and the circuit substrate" (Col. 1, lines 40-43).

Applicants argue that Peterson et al do not specifically disclose the thickness and coefficient of thermal expansion of the core material is not persuasive. If the thermally conductive layer is provided such that it does not have a selected thickness and coefficient of thermal expansion, then Peterson et al teach (Cf. Col. 2, lines 17-19) that solder connection reliability will not be present. Applicants have mischaracterized or misconstrued that what Peterson et al expressly and/or inherently teach in an effort to urge patentability of their claims. In addition to not subscribing sufficient amount of competence to the person skilled in the art to which the claimed invention pertain, Applicants attempt to construe the plain meaning of Peterson et al's teaching so narrowly and so strictly so as to negate the object and disclosure of Peterson et al. Inasmuch as Applicants have placed the entire issue of patentability on whether

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the Peterson et al. fail to anticipate the claimed invention or whether the specific limitation of having thermally conducting layer being comprised of a material having a selected thickness and CTE to substantially prevent failure of solder connection, it is held that all other limitations with respect to claims 82-86 and 93-97 are taught by the prior art. Moreover, since Applicants also argue that the specifics of the selective thickness and CTE are not taught as applied to independent claims 80, 87, and 91 and no others argument is presented, the Patent Office concludes and therefore holds that either the prior art teaches each and every other limitation in claims 80, 87, and 91. Alternatively, Applicants waive patentability with respect to all limitations with respect to the limitations recited in said claims 82-86 and 93-97. Finally, with respect to Applicants' arguments applied to dependent claims 81, 88-90, and 92 since Applicants again rely on the issue of non-specificity of Peterson et al's teaching with respect to the choice of selected thickness and CTE for the thermally conductive layer. It is concluded that every other limitation recited in these claims either is taught (either expressively or inherently) by Peterson et al. is old as a matter of law or is waived by Applicants. It is also concluded and held that Applicants acknowledge and concur that Peterson et al. and Frankeny et al are properly combinable or in the alternative, any argument as to the combinability of the two teachings is also waived.

### *Conclusion*

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Furthermore the Patent Office saith not. The issue is joined

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghai D. Nguyen whose telephone number is (703) 305-7859. The examiner can normally be reached on Monday-Friday (9:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter D. Vo can be reached on (703) 308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7307 for regular communications and (703) 305-3579 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

DN  
April 17, 2003

  
CARL J. ARBES  
PRIMARY EXAMINER